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EXAMINER	
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ART UNIT	PAPER NUMBER
2145	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/714,459	CHEIKY ET AL.	
	Examiner	Art Unit	
	LIN LIU	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/13/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is responsive to communications filed on 11/13/2003.

Claims 1-26 are pending and have been examined.

2. The information disclosure statement (I.D.S) filed on 02/13/2004 is considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by **Steele et al. (PGPUB: US 2004/0110490).**

With respect to **claim 1,** Steele teaches a mobile communication device comprising infrastructure capable of processing streamed multimedia data in a single threaded operating environment, said single threaded operating environment being adapted to process the streamed multimedia data in a virtual multithreaded mode using a slide show format (Steele: fig. 1, 4 & 18, page 3, paragraph 44, and page 8, paragraph 108, noted that the media engine of media device 105 emulates continuous streaming, which is substantially equivalent to the virtual multithreaded mode as described in applicant's application).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Steele et al. (PGPUB: US 2004/0110490)** in view of **Gulick et al. (Patent no.: US 5,732,224).**

With respect to **claim 2,** Steele teaches the mobile communication device of claim 1, wherein said infrastructure comprises at least one central processing unit (CPU) being used to download images and associated sound clips, said downloaded images and associated sound clips being part of a multimedia data stream (Steele: fig. 1 & 18, page 3, paragraph 50, and page 9, paragraph 127, noted the microprocessor 1838); at least one operating system (OS) operatively coupled to said at least one CPU (Steele: page 11, paragraph 136, noted the OS software), said at least one CPU being utilized to display said downloaded images (Steele: fig. 6, page 3, paragraph 49, page

4, paragraph 56, noted that media content is outputted to display 420); and at least one digital signal processor (DSP) operatively coupled to said at least one CPU (Steele: fig. 18, and page 10, paragraph 129, noted the DSP 1820).

However, Steele does not explicitly teach a method of using the digital signal processor (DSP) for audio processing of sound clips.

In the same field of endeavor, Gulick teaches a method of using the digital signal processor (DSP) for audio processing of sound clips (Gulick: fig. 2-3, col. 6, lines 5-13, noted that the CPU instructs the DSP engine to process the audio data).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of offloading the audio processing from the CPU to the digital signal processor (DSP) as taught by Gulick in Steele's invention in order to assist the data processing and reduce the workload of the CPU.

8. Claims 3-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Steele et al. (PGPUB: US 2004/0110490)** in view of **Gulick et al. (Patent no.: US 5,732,224)** and **Choi (PGPUB: US 2004/0203449 A1).**

With respect to **claim 3,** Steele-Gulick teach the mobile communication device of claim 2, wherein said infrastructure further comprises at least one high level application operatively coupled to said at least one CPU and run under the auspices of said at least one OS (Steele: page 3, paragraphs 49-50, noted the Media Engine 410).

However, the combined method of Steele and Gulick does not explicitly teach a method of accessing and monitoring the digital signal processor (DSP).

In the same field of endeavor, Choi teaches a method of accessing and monitoring the digital signal processor (DSP) (Choi: fig. 1, page 2, paragraph 21, noted that DSP usage is monitored and adjusted accordingly based on the network state.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of accessing and monitoring the digital signal processor (DSP) as taught by Choi in the combined method of Steele's and Gulick's invention in order to provide a stable communication service to a user by automatically adjusting usage/throughput of the terminal based on a network state (Choi: page 1, paragraph 13.).

With respect to **claim 4,** Steele teaches the mobile communication device of claim 3, wherein said at least one high level application is adapted to instruct said at least one CPU to display a first downloaded image in slide show format, and immediately download a successive image and associated successive sound clip to create the appearance of processing said multimedia data stream in a multithreaded mode (Steele: page 8, paragraph 108, noted that the first piece of content is played meanwhile the Media engine continues to download the next piece of media content).

However, Steele does not explicitly teach a method of handing over audio processing to a DSP.

In the same field of endeavor, Gulick teaches a method of using the digital signal processor (DSP) for audio processing of sound clips (Gulick: fig. 2-3, col. 6, lines 5-13, noted that the CPU instructs the DSP engine to process the audio data).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of offloading the audio processing from the CPU to the digital signal processor (DSP) as taught by Gulick in Steele's invention in order to assist the data processing and reduce the workload of the CPU.

With respect to **claim 5,** Steele-Gulick a method of offloading the audio process to the DSP engine (Gulick: col. 6, lines 5-13). However, they do not explicitly teach a method of monitoring the digital signal processor (DSP).

In the same field of endeavor, Choi teaches a method of monitoring the digital signal processor (DSP) (Choi: fig. 1, page 2, paragraph 21). The same motivation used in claim 3 applies equally as well to claim 5.

With respect to **claim 6,** Steele teaches the mobile communication device of claim 4, wherein said at least one CPU includes a CPU clock (Steele: fig. 8, page 9, paragraph 127, noted the Microprocessor is inherently to have a CPU clock).

With respect to **claim 7,** Steele teaches the mobile communication device of claim 6, wherein said at least one high level application is adapted to monitor said CPU clock to determine when to instruct said at least one CPU to display said downloaded successive image (Steele: page 8, paragraph 108).

In regard to **claims 8-12,** the limitations of these claims are substantially the same as those in claims 3-7. Therefore the same rationale for rejecting claims 3-7 is used to reject claims 8-12. By this rationale **claims 8-12** are rejected.

With respect to **claim 13,** Steele teaches a method for processing streamed multimedia data, said method comprising the steps of:

(a) utilizing at least one central processing unit (CPU) to download an image and an associated sound clip, said downloaded image and sound clip being part of a multimedia data stream (Steele: fig. 1 & 18, page 3, paragraph 50, and page 9, paragraph 127, noted the microprocessor 1838);

(b) utilizing said at least one CPU to display said downloaded image in a slide show format (Steele: fig. 6, page 3, paragraph 49, page 4, paragraph 56, noted that media content is outputted to display 420);

repeating steps (b)-(d), if data content processing of said downloaded piece of content is complete, to create the appearance of processing said multimedia data stream in a multithreaded mode (Steel: page 8, paragraph 108).

However, Steele does not explicitly teach a method of handing over audio processing of said downloaded sound clip to at least one digital signal processor (DSP) to free up said at least one CPU to download a successive image and a successive associated sound clip; monitoring said at least one DSP to determine if audio processing of said downloaded sound clip is complete.

In the same field of endeavor, Gulick teaches a method of handing over audio processing of said downloaded sound clip to at least one digital signal processor (DSP) (Gulick: fig. 2-3, col. 6, lines 5-13, noted that the CPU instructs the DSP engine to process the audio data).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of offloading the audio processing from the CPU to the digital signal processor (DSP) as taught by Gulick in Steele's invention in order to assist the data processing and reduce the workload of the CPU.

However, the combined method of Steele and Gulick does not explicitly teach a method of monitoring the audio processing of the DSP engine.

In the same field of endeavor, Choi teaches a method of monitoring the digital signal processor (DSP) (Choi: fig. 1, page 2, paragraph 21, noted that DSP usage is monitored and adjusted accordingly based on the network state.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of monitoring the digital signal processor (DSP) as taught by Choi in the combined method of Steele's and Gulick's invention in order to provide a stable communication service to a user by automatically adjusting usage/throughput of the terminal based on a network state (Choi: page 1, paragraph 13.).

With respect to **claim 15,** Steele teaches the method of claim 13, further comprising the step of terminating the processing of said multimedia data stream if said at least one CPU fails to download at least one successive image (Steele: fig. 16, page 9, paragraph 115).

In regard to **claims 14 and 16,** the limitations of these claims are substantially the same as those in claims 13 and 15. Therefore the same rationale for rejecting

claims 13 and 15 is used to reject claims 14 and 16. By this rationale **claims 14 and 16** are rejected.

With respect to **claim 17**, Steele teaches an apparatus for processing streamed multimedia data, comprising:

(a) at least one central processing unit (CPU) being used to download images and associated sound clips, said downloaded images and associated sound clips being part of a multimedia data stream (Steele: fig. 1 & 18, page 3, paragraph 50, and page 9, paragraph 127, noted the microprocessor 1838), said at least one CPU being utilized to display said downloaded images (Steele: fig. 6, page 3, paragraph 49, page 4, paragraph 56, noted that media content is outputted to display 420);

(b) at least one operating system (OS) operatively coupled to said at least one CPU (Steele: page 11, paragraph 136, noted the OS software);

(c) at least one digital signal processor (DSP) operatively coupled to said at least one CPU and adapted for data content processing (Steele: fig. 18, and page 10, paragraph 129, noted the DSP 1820); and

(d) at least one high level application operatively coupled to said at least one CPU and run under the auspices of said at least one OS (Steele: page 3, paragraphs 49-50, noted the Media Engine 410), said at least one high level application being adapted to instruct said at least one CPU to display a first downloaded image in a slide show format (Steele: page 8, paragraph 108, noted that the first piece of content is played meanwhile the Media engine continues to download the next piece of media content), immediately download a successive image and associated successive sound

clip (Steele: fig. 1, 4 & 18, page 3, paragraph 44, and page 8, paragraph 108, noted that the media engine of media device 105 emulates continuous streaming, which is substantially equivalent to the virtual multithreaded mode as described in applicant's application), and display said downloaded successive image, if first piece of data content processing is complete, to create the appearance of processing said multimedia data stream in a multithreaded mode 9 Steele: fig. 1, 4 & 18, page 3, paragraph 44, and page 8, paragraph 108).

However, Steele does not explicitly teach a method of handing over audio processing of said downloaded sound clip to at least one digital signal processor (DSP); and accessing and monitoring said at least one DSP to determine if audio processing of said downloaded sound clip is complete.

In the same field of endeavor, Gulick teaches a method of handing over audio processing of said downloaded sound clip to at least one digital signal processor (DSP) (Gulick: fig. 2-3, col. 6, lines 5-13, noted that the CPU instructs the DSP engine to process the audio data).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of offloading the audio processing from the CPU to the digital signal processor (DSP) as taught by Gulick in Steele's invention in order to assist the data processing and reduce the workload of the CPU.

However, the combined method of Steele and Gulick does not explicitly teach a method of accessing and monitoring the audio processing of the DSP engine.

In the same field of endeavor, Choi teaches a method of accessing and monitoring the digital signal processor (DSP) (Choi: fig. 1, page 2, paragraph 21, noted that DSP usage is monitored and adjusted accordingly based on the network state.).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate the method of accessing and monitoring the digital signal processor (DSP) as taught by Choi in the combined method of Steele's and Gulick's invention in order to provide a stable communication service to a user by automatically adjusting usage/throughput of the terminal based on a network state (Choi: page 1, paragraph 13.).

With respect to **claim 18,** Steele teaches the apparatus of claim 17, wherein said at least one high level application is adapted to terminate processing of said multimedia data stream if said at least one CPU fails to download at least one successive image (Steele: fig. 16, page 9, paragraph 115).

In regard to **claims 19-26,** the limitations of these claims are substantially the same as those in claims 17-18. Therefore the same rationale for rejecting claims 17-18 is used to reject claims 19-26. By this rationale **claims 19-16** are rejected.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Takayama et al. (PGPUB: US 2004/0127201 A1) discloses a cellular telephone having TV reproduction functions.

- Janik et al. (PGPUB: US 2002/0178279 A1) discloses a method for accessing ancillary data from a primary content provider and playing the content on an audio device.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lin Liu whose telephone number is (571) 270-1447. The examiner can normally be reached on Monday - Friday, 7:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on (571) 272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. L./
Examiner, Art Unit 2145

/Jason D Cardone/
Supervisory Patent Examiner, Art Unit 2145